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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,368	12/20/2005	Hiroaki Koshima	281974US0PCT	9727

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EXAMINER	
GOLOBOY, JAMES C	

ART UNIT	PAPER NUMBER
1797	

NOTIFICATION DATE	DELIVERY MODE
10/29/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/561,368	KOSHIMA ET AL.	
	Examiner	Art Unit	
	James Goloboy	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/20/05, 3/14/06, 8/26/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. Claims 1-6 and 8-9 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 of copending Application No. 10/515,822. Although the conflicting claims are not identical, they are not patentably distinct from each other.

Claim 1 of the '822 application discloses a composition containing a succinimide meeting the limitations of the lubricant additives of claims 1-6 of the current application. Claim 7 of the '822 application discloses a lubricating oil composition containing the succinimide and therefore meeting the limitations of claims 8-9 of the current application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

2. Claims 1-6 and 8-11 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14 of U.S. Patent No. 6,906,191. Although the conflicting claims are not identical, they are not patentably distinct from each other.

Claims 1-4 of the '191 patent discloses a borosuccinimide compound that renders obvious of the boronization product of the succinimide of claims 1-3 and 6, as the molecular weight of the alkyl or alkenyl substituent implies a number of carbon

atoms overlapping the ranges recited in claims 1-6. Claims 2-3 of the '191 patent disclose a concentration of ring-terminated polyalkylenepolyamine overlapping the ranges recited in claims 4-5.

Applicant is reminded that those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in an application defines an obvious variation of an invention claimed in the patent. *In re Vogel*, 422 F. 2d 438, 164 USPQ 619, 622 (CCPA 1970). In this case, column 19 lines 49-55 of the '191 patent teaches that the borosuccinimide can be added to a lubricant composition as in claim 8 of the current application, including engine oils and transmission oils, meeting the limitations of claim 9 of the current application. In addition the transmission oil is capable of lubricating the transmissions recited in claims 10-11 of the current application.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4 and 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Meyer (U.S. Pat. No. 4,863,487).

In column 1 lines 56-63, Meyer discloses a detergent thay is a mixture of N-substituted imides derived from adducts of maleic anhydride and olefins, which are then further reacted with amines. In columns 2-3 Meyer discloses that the maleic anhydride adducts have alkenyl groups of between 10 and 30 carbon atoms, meeting the limitations of reactant (a) of claim 1 and claim 6. In column 4 lines 8-47, Meyer discloses that the amine mixture contains aminoethylpiperazine, meeting the limitations of the ring-terminated amine of reactant (b) of claim 1 as well as claims 2-3. Attention is drawn to the sample amine mixtures in Table IX (column 6 lines 34-47), which contain aminoethylpiperazine in an amount of more than 5% by weight. While Meyer discloses the concentration in terms of weight percentage instead of mole percentage, it is clear that the amine mixtures in Table IX will meet the concentration limitation of reactant (b) of claim 1, as the “higher oligomers” that make up a large portion of the amine mixtures will have a higher molecular weight than the aminoethylpiperazine, and the mole percentage of aminoethylpiperazine in the mixtures will be greater than the weight percentage. The “Amine-A” mixture in Table IX will meet the limitations of claim 4 as well. Examples 1-7 in columns 6-8 discloses the preparation of additives meeting the limitations of claims 1-3. In light of the above, claims 1-4 and 6 are clearly anticipated by Meyer.

In Tables I, VII, and VIII, Meyer discloses that some of the alkenyl substituents of the succinimide have more than 30 carbon atoms. The succinimide products with these alkenyl substituents will have a molecular weight within the range recited in claim 7.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1-6 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goodwine (U.S. Pat. No. 3,405,065).

In column 1 lines 61-70, Goodwine discloses lubricating oil compoisitions containing superior ashless detergents. The detergents are obtained from the acylation of an alkylene polyamine with an alkenylsuccinic acid or anhydride. In column 2 line 57 Goodwine discloses that the alkylene polyamine can be N-aminoethylpiperazine, in which case the resulting detergent will have a structure meeting the detergents of claims 1-6, and the lubricating composition meets the limitations of claims 8-9. The only difference between Goodwine and the currently presented claims is that the succinimide of Goodwine does not have an alkyl substituent with a number of carbon atoms within the range recited in claim 1.

Goodwine, in column 1 lines 61-70, discloses that the alkyl substituent has from about 30 to about 300 carbon atoms, overlapping the claimed range. See MPEP 2144.05(I): "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976);"

8. Claims 1-6 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tipton (U.S. Pat. No. 6,133,210).

In column 3 lines 50-55, Tipton discloses an additive composition comprising a hydrocarbyl substituted ashless dispersant. In column 16 lines 11-19, Tipton discloses that a preferred dispersant is the reaction product of a polyolefin-substituted succinic group with an amine. From column 17 line 66 through column 18 line 10 Tipton discloses that the amines can be heterocyclic polyamines, meeting the limitations of claim 1, and can specifically be N-aminoethylpiperazine, meeting the limitations of claims 2-3. When these amines are the sole amines reacted with the succinic acylating agent, claims 4-5 are met. From column 29 line 66 through column 30 line 9 Tipton discloses that the composition is used in a lubricating oil, as recited in claim 8. The differences between Tipton and the currently presented claims are:

i) Tipton does not disclose the number of carbon atoms in the polyolefin substituent on the succinic acylating agent.

ii) Tipton does not specifically disclose a transmission fluid containing the additive composition.

With respect to i), Tipton discloses in column 15 lines 3-7 that the substituent preferably has a molecular weight of about 250 to about 500, leading to a number of carbon atoms overlapping the range recited in claims 1 and 6.

With respect to ii), Tipton discloses in columns 1-2 that many additive compositions that provide desirable properties to automatic transmission fluids lead to incompatible, non-homogeneous compositions (column 2 lines 51-54, 61-63). In column 3 lines 39-44 Tipton discloses that the inventive additive compositions are homogeneous. Therefore, it would have been obvious to one of ordinary skill in the art to include the additive composition of Tipton in an automatic transmission fluid, meeting the limitations of claims 9-10. Additionally, automatic transmission fluids are capable of lubricating continuously variable transmissions, meeting the limitations of claim 11.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Goloboy whose telephone number is (571)272-2476. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Glenn A Caldarola/
JCG Acting SPE of Art Unit 1797